

A Level Mathematics

Course Overview

- **Exam Board** – AQA
- **Usual Age Range** – 16-18
- **Qualification** – Equivalent to 1 A-Level
- **Curriculum Time** – Five 50-minute lessons per week
- **Assessment** – this curriculum is assessed via 3x 120-minute exams including core maths, mechanics & statistics
- **Grading** – A*, A, B, C, D, E, U
- **Full specification** -
<https://filestore.aqa.org.uk/resources/mathematics/specifications/AQA-7357-SP-2017.PDF>

Curriculum Intent

The intent of the Mathematics curriculum is to enable UTC students to become the best mathematicians they can be. At the UTC our students will study a course of A Level Mathematics which provides an opportunity to develop their practice of pure topics such as calculus and trigonometry alongside applied topics such as mechanics and statistics. Though a highly logical subject, students will be encouraged to develop their imagination and metacognition as they problem solve and tackle problems.

Our mathematics curriculum will give students the opportunity to:

- Become fluent in the fundamentals of mathematics, through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and preserving in seeking solutions.
- Communicate, justify, argue and prove using mathematical vocabulary.

Students are encouraged to develop their appreciation and love of mathematics by taking part in extra curricular opportunities such as inter-school maths competitions and lectures.

Suggested next step destinations after completion include Degrees in Mathematics and likeminded courses such as Engineering.

Almost all future career paths will require a certain level of mathematics, be they in technology, health care or industry. Employers value the many 'soft' skills that mathematics builds up – such as problem solving, critical thinking and numerical awareness.

Study Tips

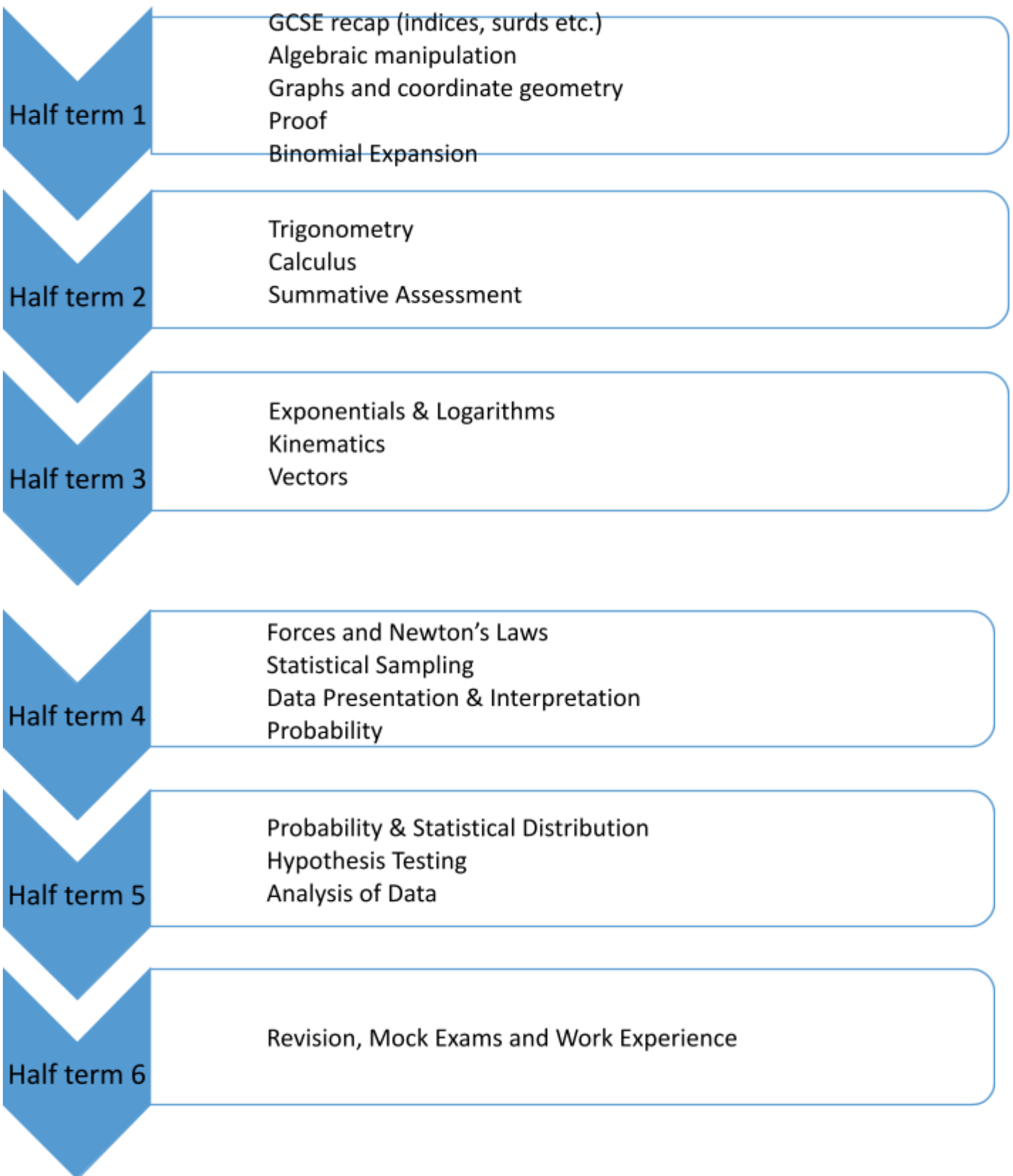
Students will benefit additional study using the following resources:

- Maths Genie - <https://www.mathsgenie.co.uk/newalevel.php>
- Kerboodle - <https://www.kerboodle.com/users/login> (requires school login)
- MyMaths – <https://www.mymaths.co.uk> (requires school login)
- Seneca - <https://senecalearning.com/> (requires school login)
- Practice Assessments and papers -
<https://www.aqa.org.uk/subjects/mathematics/a-level/mathematics-7357/assessment-resources>
- Physics and Maths Tutor – <http://physicsandmathstutor.com>
- Exam Solutions - <https://www.examsolutions.net/>

A Level Mathematics

The learning in A Level Mathematics is structured as follows.

Year 12:



Year 13:

